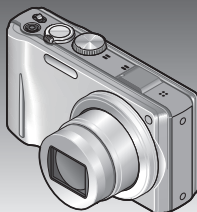# Panasonic®

Basic Operating Instructions
Digital Camera

Model No. DMC-TZ20

LUMIX

Before use, please read these instructions completely.

More detailed instructions on the operation of this camera are contained in "Operating Instructions for advanced features (PDF format)" in the supplied CD-ROM. Install it on your PC to read it.

Dear Customer,
We would like to take this opportunity to thank you for purchasing this Panasonic Digital Camera. Please read these Operating Instructions carefully and keep them handy for future reference. Please note that the actual controls and components, menu items, etc. of your Digital Camera may look somewhat different from those shown in the illustrations in these Operating Instructions.

Carefully observe copyright laws.
• Recording of pre-recorded tapes or discs or other published or broadcast material for purposes other than your own private use may infringe copyright laws. Even for the purpose of private use, recording of certain material may be restricted.

Information for Your Safety

WARNING:
TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE,
• **DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.**
• **USE ONLY THE RECOMMENDED ACCESSORIES.**
• **DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

IF THE POWER CORD OF THIS EQUIPMENT IS DAMAGED, IT MUST BE REPLACED WITH AN ELECTRICALLY APPROVED POWER CORD.

THE SOCKET OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.

■ Product identification marking

Product	Location
Digital camera	Bottom
Battery charger	Bottom

■ About the battery pack

CAUTION
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

• Do not heat or expose to flame.
• Do not leave the battery(ies) in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.

Warning
Risk of fire, explosion and burns. Do not disassemble, heat above 60 °C or incinerate.

■ About the battery charger

CAUTION!
- **DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.**
- **DO NOT OBSTRUCT THE UNIT'S VENTILATION OPENINGS WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND SIMILAR ITEMS.**
- **DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS LIGHTED CANDLES, ON THE UNIT.**
- **DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY FRIENDLY MANNER.**

- The battery charger is in the standby condition when the AC power supply cord is connected. The primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

■ Cautions for Use
- When using an AC adaptor, use the AC cable supplied with the AC adaptor.
- Do not use any other AV cables except the supplied one.
- Do not use any other USB connection cables except the supplied one.
- Always use a genuine Panasonic HDMI mini cable (RP-CDHM15/RP-CDHM30: optional).

In the event of abnormal operation (e.g. if the unit emits smoke or an unusual smell), immediately stop operating the unit and consult the Panasonic Customer Care Centre on 132600.

Keep this unit as far away as possible from electromagnetic equipment (such as microwave ovens, TVs, video games etc.).
- If you use this unit on top of or near a TV, the pictures and/or sound on this unit may be disrupted by electromagnetic wave radiation.
- Do not use this unit near cell phones because doing so may result in noise adversely affecting the pictures and/or sound.
- Recorded data may be damaged, or pictures may be distorted, by strong magnetic fields created by speakers or large motors.
- Electromagnetic wave radiation generated by microprocessors may adversely affect this unit, disturbing the pictures and/or sound.
- If this unit is adversely affected by electromagnetic equipment and stops functioning properly, turn this unit off and remove the battery or disconnect AC adaptor (DMW-AC5G; optional). Then reinsert the battery or reconnect AC adaptor and turn this unit on.

Do not use this unit near radio transmitters or high-voltage lines.
- If you record near radio transmitters or high-voltage lines, the recorded pictures and/or sound may be adversely affected.

-If you see this symbol-

Information on Disposal in other Countries outside the European Union
This symbol is only valid in the European Union.
If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Contents

Standard accessories

Check that all the accessories are supplied before using the camera. Part numbers are as of January 2011.

☐ **Battery pack**
DMW-BCG10E
 • Charge the battery before use.
Battery pack is indicated as battery pack or battery in the text.

☐ **Battery charger**
DE-A66A

Battery charger is indicated as battery charger or charger in the text.

☐ **Stylus Pen**
VGQ0C14

☐ **AC cable**
K2CJ29A00002

☐ **Hand strap**
VFC4297

☐ **USB connection cable**
K1HY08YY0017
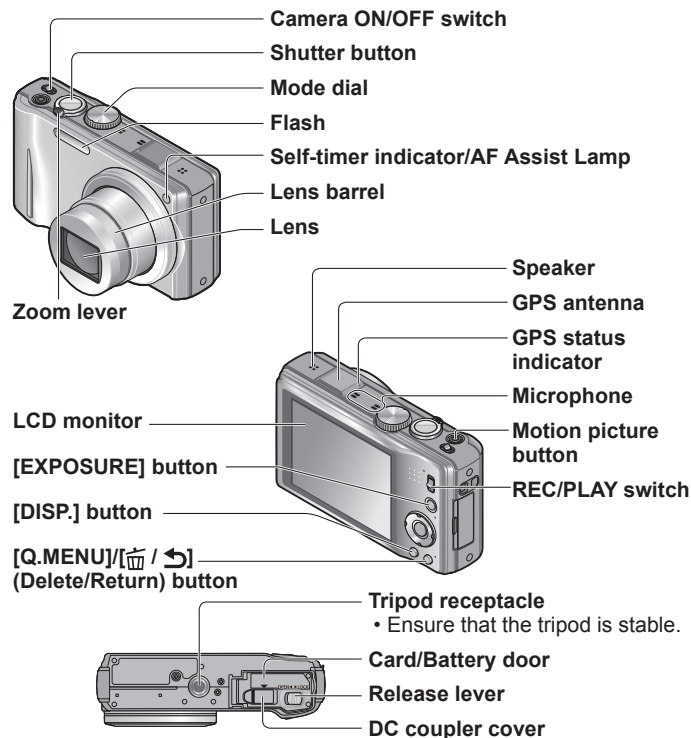
☐ **AV cable**
K1HY08YY0018

☐ **CD-ROM**
VFF0768
 • Software:
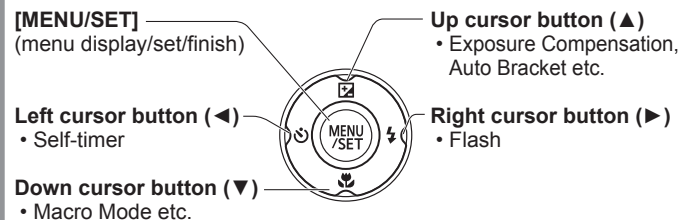   Use it to install the software on your PC.
 • Operating Instructions

• Cards are optional. You can record or play back pictures on the built-in memory when you are not using a card.
• Consult the dealer or your nearest Service Centre if you lose the supplied accessories. (You can purchase the accessories separately.)
• Please dispose of all packaging appropriately.
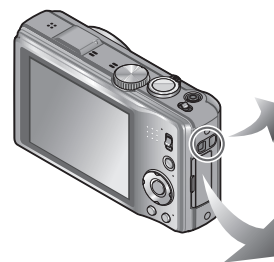• Keep small parts in a safe place out of the reach of children.

Names of parts

The illustrations and screens in this manual may differ from the actual product.

- Camera ON/OFF switch
- Shutter button
- Mode dial
- Flash
- Self-timer indicator/AF Assist Lamp
- Lens barrel
- Lens
- Zoom lever
- Speaker
- GPS antenna
- GPS status indicator
- Microphone
- LCD monitor
- [EXPOSURE] button
- Motion picture button
- REC/PLAY switch
- [DISP.] button
- [Q.MENU]/[🗑 / ↩] (Delete/Return) button
- Tripod receptacle
  - Ensure that the tripod is stable.
- Card/Battery door
- Release lever
- DC coupler cover

●Always use a genuine Panasonic AC adaptor (DMW-AC5G: optional).
●When using an AC adaptor, ensure that the Panasonic DC coupler (DMW-DCC5; optional) and AC adaptor (DMW-AC5G; optional) are used.

Cursor button

[MENU/SET]
(menu display/set/finish)

Up cursor button (▲)
• Exposure Compensation, Auto Bracket etc.

Left cursor button (◄)
• Self-timer

Right cursor button (►)
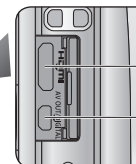• Flash

Down cursor button (▼)
• Macro Mode etc.

●In this manual, the button that is used is indicated by ▲ ▼ ◄ ►.

Hand strap eyelet
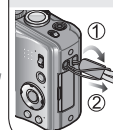
We recommend using the supplied hand strap to avoid dropping the camera.

- HDMI socket
- [AV OUT/DIGITAL] socket

●We recommend you use a battery with sufficient battery power or the AC adaptor when recording motion pictures.
●If the power supply is cut off due to a power cut or the AC adaptor being disconnected, the motion picture being recorded using the AC adaptor will not be recorded.

Touch operations

This camera's touch panel senses pressure that is applied to the screen.

Touch

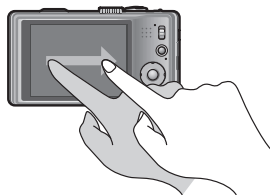To "touch" is to press the touch panel and then pull the finger back again.
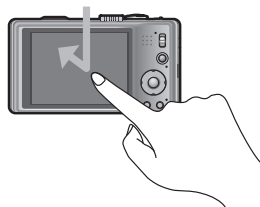
Touching is used to select icons or pictures, among other actions.
- Touch an icon near its centre. If multiple icons are touched simultaneously, the camera may not operate normally.

Drag

To "drag" is to touch and slide your finger across the touch panel surface.

Dragging (sliding your finger across the screen) is used to scroll the pictures or change the range of the pictures displayed.

● If the type of sheet to protect LCD screens that are available on the market is to be used, observe the precautions that are contained with the sheet. (Some types of protective sheets may impair the screen's visual recognition and ease of operation.)
● If the camera is used with a protective sheet available on the market attached to its screen or if the screen is not very responsive, touch the screen with a little more pressure.
● If your hand is pressed against the touch panel when holding the camera, the touch panel will not work properly.
● Do not press on the LCD monitor with hard pointed tips, such as ball point pens.
● Do not press the touch panel with your fingernails.
● Clean the LCD monitor with a soft dry cloth if there are fingerprints or other kinds of dirt on it.

■ Stylus pen

The stylus pen (supplied) comes in handy when doing the kinds of jobs that require close or careful operation and your fingertips are too large to perform the operations easily.
- Do not use a pen other than the pen supplied.
- Keep the stylus pen out of the reach of infants and small children.
- Do not place the stylus pen on the LCD monitor when storing. LCD monitor may break when the stylus pen is pressed strongly against the LCD monitor.

Charging the battery

## ■About batteries that you can use with this unit
The battery that can be used with this unit is DMW-BCG10E.

It has been found that counterfeit battery packs which look very similar to the genuine products are made available to purchase in some markets. Some of these battery packs are not adequately protected with internal protection to meet the requirements of appropriate safety standards. There is a possibility that these battery packs may lead to fire or explosion. Please be advised that we are not liable for any accident or failure occurring as a result of use of a counterfeit battery pack. To ensure that safe products are used we recommend that a genuine Panasonic battery pack is used.

- Use the dedicated charger and battery.
- The camera has a function for distinguishing batteries which can be used safely. The dedicated battery (DMW-BCG10E) supports this function. The only batteries suitable for use with this unit are genuine Panasonic products and batteries manufactured by other companies and certified by Panasonic. (Batteries which do not support this function cannot be used.) Panasonic cannot in any way guarantee the quality, performance or safety of batteries which have been manufactured by other companies and are not genuine Panasonic products.
- The battery is not charged when the camera is shipped. Charge the battery and set the clock before use.
- Charge the battery with the charger indoors (10 °C - 30 °C).

1 Insert the battery terminals and attach the battery to the charger
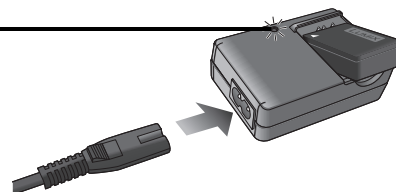
Ensure [LUMIX] faces outwards.
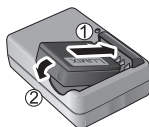
2 Connect the charger to the electrical outlet

Charging light ([CHARGE])

| On: | Charging in progress (approx. 130 min. if fully depleted) |
| Off: | Charging complete |

3 Detach the battery after charging is completed

■Recording capacity guidelines (pictures/recording time)

| Number of recordable pictures	Approx. 260 pictures
Recording time	Approx. 130 min
Playback time	Approx. 210 min

Recording conditions by CIPA standard
- CIPA is an abbreviation of [Camera & Imaging Products Association].
- [Program AE] Mode.
- [GPS Setting] is set to [OFF]
- Temperature: 23 °C/Humidity: 50 %RH when LCD monitor is on.
- Using a Panasonic SD Memory Card (32 MB).
- Using the supplied battery.
- Starting recording 30 seconds after the camera is turned on. (When the Optical Image Stabilizer function is set to [ON].)
- Recording once every 30 seconds with full flash every second recording.
- Rotating the zoom lever from Tele to Wide or vice versa in every recording.
- Turning the camera off every 10 recordings and leaving it until the temperature of the battery decreases.

The number of recordable pictures or available operating time may vary according to surrounding environment and usage conditions. Figures may be reduced if flash, zoom, or other functions are used frequently, or in colder climates.

Inserting and removing the card (optional)/the battery

1 Set the camera ON/OFF switch to OFF and slide the release lever (Ⓐ) to [OPEN] before opening the lid

Ⓐ

[OPEN] [LOCK]
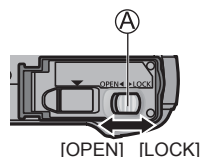
2 Insert the battery and card, making sure that their orientation is correct

Battery: Insert all the way firmly until a locking sound is heard, and check that the lever is hooked over the battery.
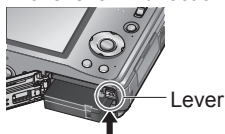
Card: Insert all the way firmly until it clicks.

3 Close lid

Slide to the [LOCK] position.

■To remove

- **To remove battery:** move lever in direction of arrow.

Lever

- **To remove card:** press down in centre.

- Always use genuine Panasonic batteries (DMW-BCG10E).
- If you use other batteries, we cannot guarantee the quality of this product.
- Insert the card fully, otherwise it may be damaged.

Picture save destination (cards and built-in memory)

■Built-in memory (approx. 18 MB)

- The built-in memory can be used as a temporary storage device when the card being used becomes full.
- The access time for the built-in memory may be longer than the access time for a card.

■Compatible memory cards (optional)

The following SD standard-based cards (Panasonic brand recommended)

Type of Card	Capacity	Notes
SD Memory Cards	8 MB – 2 GB	• Using a card of SD speed "Class 4"* or above is recommended for recording motion pictures in [AVCHD]. Using a card of SD speed "Class 6"* or above is recommended for recording motion pictures in "Motion JPEG". • Can be used with devices compatible with the respective formats. • Before using SDXC Memory Cards, check that your computer and other devices support this type of card. http://panasonic.net/avc/sdcard/information/SDXC.html • Only the cards listed on the left with the given capacities are supported.
SDHC Memory Cards	4 GB – 32 GB	
SDXC Memory Cards	48 GB, 64 GB	

*SD speed class refers to a specification for sustained write speeds. Confirm the SD speed by checking the card label or other card related materials.

(Example)   CLASS④   CLASS⑥

- Latest information: http://panasonic.jp/support/global/cs/dsc/ (This Site is English only.)
- Keep the Memory Card out of reach of children to prevent swallowing.

Setting the clock

The clock is not set when the camera is shipped.

1 **Turn on the power (Ⓐ)**

2 **Press [MENU/SET] (Ⓑ) while the message is displayed**

3 **Press ◄► to select the items (year, month, day, hour, minute, display order or time display format), and press ▲▼ to set**
- To cancel → Press [🗑 / ↩].

4 **Press [MENU/SET]**

5 **Confirm the setting and press [MENU/SET]**
- To return to the previous screen, press [🗑 / ↩].

6 **Press ◄ to select [Yes] and press [MENU/SET] if automatically correcting time of day using the GPS function**
- To manually set date and time →select [No].

7 **When [Please set the home area] is displayed, press [MENU/SET]**

8 **Press ◄► to set your home area and press [MENU/SET]**

The current time and home area are set.
- [GPS Setting] turns [ON].
- Turn on power again and check the time display.
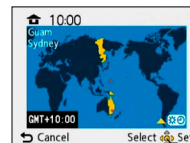
■To change the time setting

Select [Clock Set] from [Rec] or [Setup] menu, perform **3** and **4**.

About GPS

When GPS is used, the camera performs the following functions.
- Records location name information and the latitude and longitude for the positioned location on the recorded pictures
- Corrects automatically to the current time

■When [GPS Setting] is [ON], the GPS function works even if the camera's power is off.
- Electromagnetic waves from the camera can affect instruments and meters. During airplane takeoff and landing or in other restricted area, set [GPS Setting] to [OFF] or ✈GPS, then turn the camera's power off.
- When [GPS Setting] is [ON], power will drain from the battery even if the camera's power is OFF.

Setting the menu

Refer to the following procedures to operate the menus.
Example: Setting [AF Mode] from ◼ to 😊 in the [Program AE] Mode
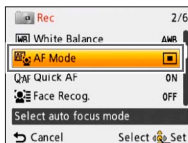
1 **Press [MENU/SET] to display the menu** (MENU/SET)

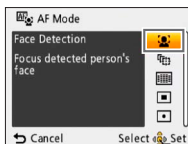| Switching to the [Rec] menu |
|---|
| **Select [Rec], and press [MENU/SET].**
• The menu type can also be selected by touch operations. |

2 **Press ▲ ▼ to select [AF Mode] and then press [MENU/SET]**

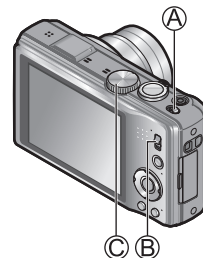• Depending on the item, its setting may not appear or it may be displayed in a different way.

3 **Press ▲ ▼ to select 😊 and then press [MENU/SET] to set**

4 **Press [🗑 / ↩] several times to close the menu**

Selecting the Recording Mode

1 **Turn on the power (Ⓐ)**

2 **Slide the [REC/PLAY] switch (Ⓑ) to 📷**

3 **Switch the mode by rotating the mode dial (Ⓒ)**

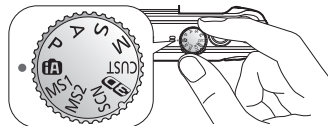|	
iA	**[Intelligent Auto] Mode** Take pictures with automatic settings.
P	**[Program AE] Mode** The subjects are recorded using your own settings.
A	**[Aperture-Priority] Mode** The shutter speed is automatically determined by the aperture value you set.
S	**[Shutter-Priority] Mode** The aperture value is automatically determined by the shutter speed you set.
M	**[Manual Exposure] Mode** The exposure is adjusted by the aperture value and the shutter speed which are manually adjusted.
CUST	**[Custom] Mode** Use this mode to take pictures with previously registered setting.
3D	**[3D Photo Mode]** Record 3D still pictures.
SCN	**[Scene Mode]** Take pictures according to the scene.
MS1 **MS2**	**[My Scene Mode]** Take pictures in frequently-used Scene Modes.

Taking pictures with automatic settings

Optimum settings are made automatically from information such as "face," "movement," "brightness," and "distance" just by pointing the camera at the subject, meaning that clear pictures can be taken without the need to make settings manually.
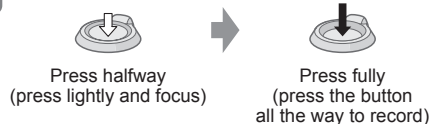
Shutter button

1 **Turn on the power (Ⓐ)**

2 **Slide the [REC/PLAY] switch (Ⓑ) to** 📷

3 **Set the mode dial (Ⓒ) to** iA

4 **Take pictures**

Press halfway
(press lightly and focus)

Press fully
(press the button all the way to record)

• If jitter becomes noticeable, use both hands, keep your arms close to your body, and stand with your feet at shoulder width.
• **Focus display (Ⓓ)**
  (In focus: lit / Not in focus: flashing)
• The AF area (Ⓔ) is displayed around the subject's face by the Face Detection function. In other cases, it is displayed at the point on the subject which is in focus.
• Focus: Max. W: 3 cm/
        Max. T: 1 m and above
        (7 × to 11 × is 2 m to ∞)

■ Automatic Scene Detection

Camera identifies the scene when pointed at the subject, and makes optimum settings automatically. The type of scene detected is indicated by a blue icon for two seconds.

Icon	Description
🔵	People are detected.
🔵	Baby is detected.
🔵	Scenery is detected.
🔵	People and night scenery are detected. (Only when ⚡A is selected)
🔵	Night scenery is detected.
🔵	Recognises night scenes without a tripod.
🔵	A close-up shot is detected.
🔵	A sunset is detected.
iA	Reads subject movement to avoid blurring when the scene does not correspond to any of the above.

If the camera automatically identifies the scene and determines that people appear as subjects in the picture (🔵, 🔵, 🔵), Face Detection is activated, and the focus and exposure are adjusted for the recognised faces.

AF Tracking

This function enables the camera to continue to focus on the subject and adjust the exposure of the subject even when the subject is moving.

Perform these operations with the touch shutter function released.

1 **Touch the subject**
• When switching to lock on to another subject
  → Touch the other subject.
• To release AF tracking → Touch 🔲.

Taking motion pictures
Recording Mode: 🅰 🄿 🄰 🅂 🄼 MS1 MS2 SCN

This records motion pictures with audio. Zoom can also be used during recording.

1 **Slide the [REC/PLAY] switch to 📷**

2 **Start recording**

◯ 🎥

Press

3 **End recording**

◯ 🎥

Press

Elapsed recording time

Remaining recording time (approx.)

- Immediately release the motion picture button after pressing it all the way.
- When there is no space left to store the motion picture, recording automatically ends.
- An AVCHD motion picture can be recorded continuously for up to 29 minutes 59 seconds when [GFS] or [FSH] is set.
 Also, a maximum of approx. 2 GB of continuous motion picture can be recorded in Motion JPEG format. (Even if there is more than 2 GB of available space on the card, the available recording time will be calculated up to a maximum of 2 GB.)
- **If [Rec Quality] is set to [GFS] or [FSH], and if the surrounding temperature is high, or motion picture is recorded continuously, ⚠ is displayed, and the recording may be stopped halfway through.**

Viewing your pictures [Normal Play]
Playback Mode: ▶

1 **Slide the [REC/PLAY] switch (Ⓐ) to ▶**

2 **Drag your finger across the screen, and select the picture to be played back**
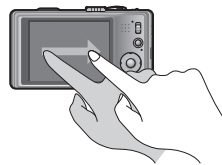
- To play back a motion picture, select an image with ◀ or ▶, and then press ▲ to start playback.
- You can print pictures by connecting a camera to your computer or printer, or by giving an SD card to a shop assistant at a photo shop.
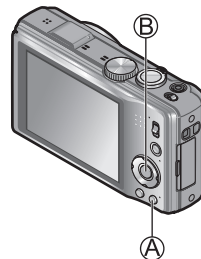
Deleting pictures
Playback Mode: ▶

Deleted pictures cannot be recovered.

1 **Press [🗑 / ↩] (Ⓐ) to delete the displayed picture**

**2** **Press ◀ to select [Yes] and then press [MENU/SET] (Ⓑ)**

Reading the Operating Instructions
(PDF format)

More detailed instructions on the operation of this camera are contained in "Operating Instructions for advanced features (PDF format)" in the supplied CD-ROM. Install it on your PC to read it.

■For Windows

1 **Turn the PC on and insert the CD-ROM containing the Operating Instructions (supplied)**

2 **Click the "Operating Instructions"**

3 **Select the desired language and then click "Operating Instructions" to install**
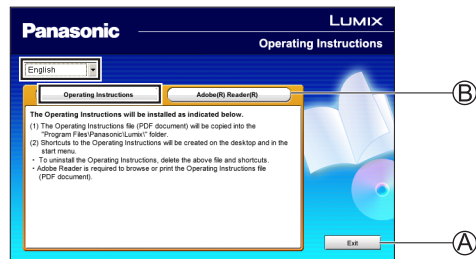
Ⓐ To return to the install menu.
Ⓑ See next page.

4 **Double click the "Operating Instructions" shortcut icon on the desktop**

■When the Operating Instructions (PDF format) will not open

You will need Adobe Acrobat Reader 5.0 or later or Adobe Reader 7.0 or later to browse or print the Operating Instructions (PDF format). Insert the CD-ROM containing the Operating Instructions (supplied), click Ⓑ and then follow the messages on the screen to install.
Compatible OS: Windows 2000 SP4 / Windows XP SP3 / Windows Vista SP2 / Windows 7

 • You can download and install a version of Adobe Reader that you can use with your OS from the following Web Site.
   http://get.adobe.com/reader/otherversions

■To uninstall the Operating Instructions (PDF format)

Delete the PDF file from the "Program Files\Panasonic\Lumix\" folder.
 • When the contents in the Program Files folder cannot be displayed, click the "Show the contents of this folder" to display them.

■For Macintosh

1 **Turn the PC on and insert the CD-ROM containing the Operating Instructions (supplied)**

2 **Open the "Manual" folder in the CD-ROM and then copy the PDF file with the desired language inside the folder**

3 **Double click the PDF file to open it**

Specifications

Digital Camera: Information for your safety

Power Source	DC 5.1 V
Power Consumption	When recording: 1.4 W When playing back: 0.9 W
Camera effective pixels	14,100,000 pixels
Image sensor	1/2.33" MOS sensor, total pixel number 15,100,000 pixels Primary colour filter
Lens	Optical 16 x zoom f=4.3 mm to 68.8 mm (35 mm film camera equivalent: 24 mm to 384 mm)/ F3.3 (Max. W) to F5.9 (Max. T)
Digital Zoom	Max. 4 x
Extra optical zoom	Max. 33.8 x (When the picture size is set to 3 million pixels [3M] or less.)
Focus range	
P/A/S/M	50 cm (Wide)/2 m (Tele) to ∞

Macro/
  Intelligent Auto/
  Motion picture
	3 cm (Wide)/1 m (Tele) to ∞
	(7 × to 11 × is 2 m to ∞)

Scene Mode	There may be difference in above settings.
Shutter system	Electronic shutter + Mechanical shutter
Burst recording	Burst speed (Burst number/maximum recordable pixels)
For mechanical shutter	Approx. 2 frames/sec (Max. 100 frames/14 M), Approx. 5 frames/sec (Max. 100 frames/14 M), Approx. 10 frames/sec (Max. 15 frames/14 M)
For electronic shutter	40 frames/sec (Max. 50 frames/5 M), 60 frames/sec (Max. 60 frames/3.5 M)

During motion
  picture
  recording
	Approx. 2 frames/sec (Max. 40 frames/3.5 M),
	Approx. 5 frames/sec (Max. 40 frames/3.5 M),
	Approx. 10 frames/sec (Max. 40 frames/3.5 M)

Minimum Illumination	Approx. 14 lx (when i-Low light is used, the shutter speed is 1/50th of a second)
Shutter speed	60 to 1/4000 th [Starry Sky] Mode: 15 seconds, 30 seconds, 60 seconds
Exposure (AE)	Programme AE (P)/Aperture-priority AE (A)/ Shutter-priority AE (S)/Manual exposure (M) Exposure Compensation (1/3 EV Step, -2 EV to +2 EV)
Metering Mode	Multiple/Centre weighted/Spot
LCD monitor	3.0" TFT LCD (4:3) (Approx. 460,800 dots) (field of view ratio about 100 %)/Touch panel
Flash	Flash range: (ISO AUTO) Approx. 60 cm to 5.0 m (Wide)
Microphone	Stereo
Speaker	Monaural
Recording media	Built-in Memory (Approx. 18 MB)/SD Memory Card/ SDHC Memory Card/SDXC Memory Card
Recording file format	
Still picture	JPEG (based on Design rule for Camera File system, based on Exif 2.3 standard/DPOF corresponding)/MPO
Motion pictures	AVCHD/QuickTime Motion JPEG
Interface	
Digital	USB 2.0 (High Speed)
Analogue video	NTSC/PAL Composite (Switched by menu)
Audio	Audio line output (Monaural)
Terminal	HDMI: MiniHDMI TypeC AV OUT/DIGITAL: Dedicated jack (8 pin)
Dimensions	Approx. 104.9 mm (W) x 57.6 mm (H) x 33.4 mm (D) (excluding the projection part)

Specifications (Continued)

Mass	With card and battery: Approx. 219 g Excluding card and battery: Approx. 197 g
Operating temperature	0 °C to 40 °C
Operating humidity	10 %RH to 80 %RH
GPS	Reception frequency: 1575.42 MHz (C/A code) Geographical coordinate system: WGS84

Battery charger
(Panasonic DE-A66A): Information for your safety

Input	110 V to 240 V ~ 50/60Hz, 0.2 A
Output	4.2 V === 0.65 A

Battery Pack (lithium-ion)
(Panasonic DMW-BCG10E): Information for your safety

Voltage/capacity	3.6 V/895 mAh

MEMO

HDMI

VIERA
Link

AVCHD ™

DOLBY
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STEREO CREATOR

QuickTime

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